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ABSTRACT

This study examined instructional practices previously found to have improved student academic performance, the extent to which undergraduate students preferred these practices, how often they occurred in the classroom, and the relationship of these practices to grade point averages, motivation, educational preparation, and retention. A survey was developed that listed 38 instructional practices related to lectures, examinations, reading assignments, writing projects, quantitative assignments, and other general classroom practices. Students (n=204) were asked to indicate how much they preferred each practice and how often they experienced each. Findings indicated: (1) the instructional practices most preferred by students were clear directions/format for their writing assignments, feedback on their writing, and feedback on why test answers were right/wrong; (2) more successful students were more likely to prefer prompt return of tests, required attendance, lectures broken up with other activities, and specific feedback on their writing; (3) less successful students were more likely to prefer study groups for tests, sample test questions, study guides for reading assignments, and help with study techniques; and (4) the effective practices least likely to be experienced were teaching study techniques, creating interest in reading assignments, and giving sample test questions prior to the test. The survey and its statistical analysis are appended. (Contains 36 references.) (DB)

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Instructional Practices: Student Preferences, Teacher Use, and the Gaps Between

Research Report 98-03

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Abstract

Instructional Practices: Student Preferences, Teacher Use, and the Gaps Between

This study looked at a series of instructional practices typically found to improve student academic performance, the extent that undergraduate students preferred these practices, how often these practices occurred in the classroom, and the relationship of these preferences to GPA, motivation, educational preparation and retention. Questions included: What instructional practices do students prefer most? Do successful students have instructional preferences that differ from at-risk students? Results indicated that students were most positive about wanting good structure and plenty of feedback on their writing assignments and tests. While many of the practices identified were reported as found only infrequently in college classrooms, those practices most preferred by at-risk students were also the ones least likely to be found.

Specific findings included:

- The instructional practices most preferred by all students were clear directions/format for their writing assignments, specific feedback on their writing, and feedback on why their test answers were right or wrong.
- More successful students were more likely to prefer prompt return of their tests, required attendance, lectures which were broken up with other activities, and specific feedback on their writing.
- Less successful students were more likely to prefer study groups for tests, sample test questions, study guides for reading assignments, help with study techniques, and encouragement to use tutorial services.
- While those with higher GPAs preferred instructors who created interest in their reading assignments, so did students who did not return the semester following the survey administration, indicating this is an important item for all students.
- Of the practices found to be most important, those least likely to be seen in classes were teaching study techniques, creating interest in reading assignments, giving sample test questions prior to the test, providing study guides for readings, and punctuating lectures with other activities such as small group discussions and film clips.

Instructional Practices: Student Preferences, Teacher Use, and the Gaps Between

Faculty impact student lives in many significant and varied ways. The results of research are clear that the ways faculty present information, make assignments, evaluate student work, and interact with students outside the classroom impact students' subject matter learning, critical thinking skills, grade point average, retention and graduation (e.g. Astin, 1993; McKeachie, Pintrich, Lin, & Smith, 1986; Pascarella & Terenzini, 1991). The American Association for Higher Education (1996) reviewed much of the research on teaching and learning and concluded that quality instruction builds in active learning, assessment and prompt feedback, collaboration, adequate time on task, and out-of-class contact with faculty.

Based on empirical studies and supported by theory, these approaches to teaching seem to improve learning. Yet colleges have a long reputation for sticking to the lecture format and providing only a mid-term and final examination to measure student knowledge. Undoubtedly there is a gap between preferred and prevailing practice. Research on our own freshmen at Boise State University (Michner & Belcheir, 1997) indicated that many didn't know how they were doing in their classes until late in the semester. They expressed frustration with their writing assignments in particular and were overwhelmed by their reading. About 35% ended their first semester with grade point averages below 2.0 (Belcheir, 1997a), and this proved a powerful predictor of continuance in college (Belcheir, 1997b).

Higher education is not alone in the lag between research and practice or student preference and practice. A similar gap seems to exist in the public schools. A study of students in middle and high schools sought to discover what students wanted to do when faced with difficult texts, how often these well-researched adaptations were used by teachers, and whether there were differences between high and low-performing students (Schumm, Vaughn, & Saumell, 1992). The authors found that in almost every case, there were significant differences between student preference and actual teacher use. In addition, high achieving students often expressed greater preference for the adaptations than did low achieving students.

Based on this study and our own prior research, we began to wonder just how big the differences were between what research said students needed, what students themselves wanted and what they received in the classroom. Did students want what the research indicated was good for their learning? Were their classes structured this way? Did higher performing students have preferences that differed from lower performing students? What effect did motivation have on instructional preferences? How did students who felt less academically prepared prefer to be instructed?

Methodology

Developing the survey

A survey was developed by the authors that listed instructional practices with regard to lectures, examinations, reading assignments, writing projects, quantitative assignments, and other general classroom practices (see Appendix A for a copy of the survey). The items came from the authors' review of empirical studies that tied specific instructional practices to student learning and from textbooks that offered advice to college professors on approaches to teaching undergraduates. A brief overview of some of the writing that supported the item development in each area follows.

Reading Assignments: In the area of reading, many of the items were adapted from the Schumm et al. (1992) study which had been developed based on prior research that included an extensive literature review and focus group interviews with teachers. Most of the practices also have been validated at the college level in studying how to teach students skills that are helpful in tackling their reading assignments (e.g., Caverly & Orlando, 1991; Nist & Mealy, 1991; Simpson & Dwyer, 1991; Swafford & Alvermann, 1990). From the instructor point of view, these practices generally involve cueing students to what is particularly important information in their texts, providing any background information they need to help them understand the materials, and helping them develop ways of tackling their texts which will often differ depending upon the subject area. In those cases where memorization of large amounts of material is necessary, teaching them special ways to remember information is also important since students often have no idea of how to accomplish this task on their own.

Writing Assignments: A huge body of literature exists on the theory, practice, and empirical findings of generating a draft, editing the product, and producing a final effort for review. We will not attempt to summarize here the whole of this complex area in a few paragraphs. We only will note that numerous studies have documented the effectiveness of providing specific feedback and encouraging drafts (e.g., Readence, Bean, & Baldwin, 1995) and so these practices were included on the survey. This finding is buttressed by the work of Astin (1993) in a national longitudinal study of college students who found that having class papers critiqued by instructors had positive partial correlations with most academic outcomes: general knowledge, knowledge of a field or discipline, analytical and problem-solving skills, writing skills, preparation for graduate or professional school, and overall academic development.

Student uncertainty of expectations also may extend to the evaluation of writing. We have already noted that our qualitative study of new freshmen (Michner & Belcheir, 1997) revealed that they claimed not to understand what was wanted from them in writing assignments or how to improve their efforts. Stanton (1986) found that students often are unclear about how their writing is evaluated and determined that having students judge each other's work, write down the criteria they used in making the judgements, and then holding a class discussion to sum up the criteria led to marked improvement in writing with a class where the technique was used compared to one where it was not. Therefore, the practices of providing sample essays, of explaining how the assignments will be evaluated, and providing prompt and specific feedback on student work were included on the survey.

Math/Quantitative Assignments: Math (and the use of numbers in general) is an area that can instill terror into the hearts of many students. At BSU (as elsewhere), withdrawal and failure rates in mathematics are among the highest of any general education course. Students also complain that they have difficulty relating abstract math concepts to the "real world." Items on the survey, therefore, describe practices that provide support to students as they tackle this area including working out difficult homework problems in class, giving sample problems that have been worked out, allowing assignments to be re-done as well as discussing real world use of math-based concepts. An item on developing study groups in math was specifically added based on the results of a study showing that students who generally did not do well in math, had greatly

improved grades when the instructor formed student study groups designed to ensure all students in the group understood the material (Garland, 1993).

Lecture Situations: The lecture is the main method of instruction in higher education. Based on their review of empirical research in the area of learning, Brown and Atkins (1988, p. 160) concluded that effective learning is more likely to occur when the lecturer "consciously designs learning tasks that build from students' existing cognitive structures toward the new knowledge or understanding that is to be acquired," "new knowledge and understanding is made meaningful to the students by links to personal experience or prior knowledge," and "students are cued in advance to select and retrieve the existing knowledge they will need to make sense of new inputs." In other words, lecturers are more effective when they provide overviews before beginning the lecture, use a variety of examples to explain concepts and allow time for students' questions so students are more likely to find a way to link the new information into their current knowledge base.

Others studying the link between instructor skill (typically in lecturing) and student learning have found that teacher clarity is the most important component in explaining amount of learning that takes place (Feldman, 1989). Hines, Cruickshank and Kennedy (1982, 1985) found that observer ratings of teacher clarity accounted for a statistically significant 52% of the variance in mean class achievement on a common posttest. Individual teacher behavior most strongly and positively related to achievement were using relevant examples during explanation, reviewing material, asking questions to find out if students understood, teaching in a step-by-step manner, explaining things and then stopping so students could think about the explanation, presenting the lesson in a logical manner, and informing students of lesson objectives or what they were expected to be able to do on completion of instruction.

Some researchers (Erickson & Strommer, 1991) have gone so far as to suggest that abandoning the non-stop fifty-minute lecture is the most important thing professors could do to improve learning. They cite McKeachie (1986) who reports research indicating that students remember about 70% of the information presented during the first 10 minutes of lecture but only 20% of the

material covered during the last 10 minutes. In any case, they make the point that lectures should be punctuated with other activities.

Using humor was also added as an item to the survey under lecturing for several reasons. One was that in our qualitative study of freshmen, a number of freshmen commented that they particularly liked a class because the instructor had a sense of humor (Michener & Belcheir, 1997). Humor also shows up as a significant item on many evaluations of instruction as part of the expressiveness/enthusiasm dimension (e.g., Marsh, 1984; Marsh & Dunkin, 1992). Besides making the learning process more enjoyable (Desberg, Henschel, Marshal, McGhee, 1981) and increase student attention and interest (Powell & Andresen, 1985), humor also facilitates the retention of lecture information (Desberg et al., 1981) and examination performance (Ziv, 1988).

As a result of these studies, items on the lecture section of the survey included providing overviews before beginning the lecture, using a variety of examples to explain concepts, allowing time in class for student questions, using a variety of visuals to supplement the auditory lecture mode, breaking up lectures with other activities such as discussions and film clips, providing summaries at the end of the lecture, and using humor.

Examinations/tests: Tests and examinations provide an operational definition of what instructors expect students to learn. They also motivate students to study and provide the feedback students need on how they are performing in class. It is well-known that the timing and emphasis of feedback on performance should be frequent, immediate, contingent, and informative in terms of pointing to the probable source of student errors (McKeachie et al., 1986). Research results also indicate that students study differently for objective than for essay tests (McClusky, 1934; Monaco, 1977; Swerts & deCorte, 1983). Thus, survey items included the practices of giving frequent quizzes, providing students with information on test content and type prior to the test, and giving feedback on answers. Items on the use of study groups and review sessions also were added as ways to improve test performance.

General Practices: The final section of the survey covered general instructional practices. Several of the items were similar to those included under other sections: using small

groups in class, and having frequently graded homework. An item on instructor availability outside of class was added because local research had indicated that amount of instructor contact related to GPAs (Belcheir, 1997b) and nationally published research also confirms the importance of faculty contact (e.g., Astin, 1993; McKeachie et al., 1986; Pascarella & Terenzini, 1991). Small group and supplemental instruction have repeatedly been found to be helpful to students (e.g., Blanc, DeBuhr & Martin, 1983; Commander, Stratton, Callahan, & Smith, 1996; Kulik, Cohen & Ebeling, 1980; Kulik, Kulik & Shwalb, 1983) so were included. An item on required attendance was included based partly on curiosity about student preferences for this practice as well as how often it occurs. It was also included, however, for the simple reason that generally the more time spent on learning, the greater the learning (McKeachie et al., 1986; Paul, 1932; Wakely, Marr, Plath, & Wilkins, 1960) and required attendance probably produces more time in class and therefore theoretically more learning.

Gathering the Data

On the survey, students were first asked to indicate how much they preferred each of 38 practices and then to indicate how often they experienced each practice (see Appendix A for a copy of the survey). Later, the group of five items related to mathematics was removed from the analysis when a number of students failed to respond to these items, probably because they had not yet completed math classes. A motivation score was calculated for each student based on the score (between 1 and 10) that students gave themselves on three items: knowing what you want from an education, motivation to continue your education, and time to devote to education. A second preparation score was based on the sum of responses to seven items asking students to rate themselves on a scale of one to ten on preparation for college and skills in reading, organization, writing, math, note-taking, and test-taking. Cumulative grade point average was gathered from student records. A retention measure was developed by reviewing university records and counting students as retained if they returned in the fall or received a degree at the end of the spring term.

Analyzing the Data

To study the relationship of preparation, motivation, and cumulative GPA to instructional preferences, the group of 33 items was submitted to a regression equation using the step-wise

procedure and a criterion to enter and stay of .15. The regression was then re-run with the items selected. Those variables with significance levels of .10 or better in the final analysis were kept.

To study the relationship to academic success as defined by enrollment the following fall or graduation, a somewhat different process was employed. Because retention was a dichotomous variable (1 if the student was retained, 0 otherwise), logistic regression was used. Following the guidelines of Hosmer and Lemeshow (1989), all variables first were individually tested for their relationship to the retention variable using either Chi-square or Pearson's Product-moment correlation. Those with a significance level of .15 or better were then included in a logistic regression analysis using the step-wise procedure. Again, those with significance levels of .10 or better were kept in the final analysis. Because prior research has shown that retention is related to grade point average, motivation, and academic preparation (e.g., Pascarella & Terenzini, 1991), those variables also were included in the analysis.

Data Reliability

Cronbach's Coefficient Alpha was used as a measure of reliability/internal consistency of the data. For the 38 items related to students' preferences of instructional practices, the reliability was .91. For the ratings of frequency of the practices' occurrence, the reliability was .92. Both of these reliabilities are quite acceptable.

For the seven items included in the measurement of academic preparedness, the reliability dropped to .73. The three items used to measure motivation had the lowest reliability at .60, indicating that this measure should be revised before the survey is given again.

Who Responded

A random sample of 474 undergraduate students was mailed the survey and 204 or 43% replied. Because only 43% of those surveyed responded, initial analyses focused both on describing the students in the study and analyzing whether they differed in significant ways from those who did not respond. No differences were found on ethnicity, class rank, or probability of returning. By class level, 10% of respondents were freshmen, 33% were sophomores, 19% were juniors, and

38% were seniors. Most (85%) were white non-Hispanics. About 80% were retained, indicating they either graduated in Spring 1997 or re-enrolled the following fall.

Respondents did differ from non-respondents on gender, age, and cumulative GPA. Women were more likely to respond than men (χ^2=7.667, p=.006). About 67% of the responding group were females compared to only 54% of the non-responding group. Older students also were more likely to respond (F=27.76, p=.0001). The average age of respondents was 29.6 compared to 25.6 for non-respondents. Finally, those with higher GPAs were more likely to respond (F=10.77, p=.0001). The mean cumulative GPA for respondents was 2.97 versus 2.78 for non-respondents.

Findings

What instructional practices did students prefer most?

When asked how much they preferred instructors who used a series of instructional practices, students most preferred getting help on their writing assignments, both in terms of knowing what they needed to do before they began writing and then again in terms of getting specific feedback on their writing following the completion of the assignment. Table 1 below shows the top ten preferences of students based on their mean responses, along with the percentage who agreed or strongly agreed that they preferred instructors who used this practice. (A full listing of items and responses can be found in Appendix B).

Table 1. Instructional practices most preferred by students

Instructional Practice	Mean	Std. Dev.	Percent preferring[1]
Provide clear directions/format for the writing assignment (Q17)	1.296	.499	98.0
Provide specific feedback on writing assignments (Q25)	1.386	.581	96.0
Provide feedback on why test answers were right or wrong (Q65)	1.429	.628	94.6
Return writing assignments within a reasonable timeframe (Q27)	1.438	.589	96.0
Explain how the writing assignment will be evaluated (Q21)	1.458	.639	93.1
Provide info about type of questions and content to be on tests (Q57)	1.468	.647	93.6
Return tests promptly (Q63)	1.475	.647	92.6
Allow time in lecture class for students' questions or comments (Q43)	1.512	.592	95.1
Are available outside of class (Q73)	1.537	.648	92.5
Use humor (Q51)	1.549	.660	91.7

[1] Indicated by the percentage either strongly agreeing or agreeing that they preferred this practice

What preferences differentiated those with high and low grade point averages?

A stepwise regression reduced the number of items in the model from 33 to 8, with 7 variables remaining significant at the .10 level in the final equation. The set of variables accounted for 23.5% of the variance (F=7.308, df=8,190, p=.0001). The adjusted R^2 was .203. Table 2 displays the variables selected and the regression equation. Items which were initially statistically significant in the stepwise regression but which dropped below the criterion of .10 in the final run are included but italicized to indicate their changed status.

The instructional practice that most strongly differentiated high and low GPA students was returning tests promptly, with higher GPA students being more anxious to get their tests back, probably because they were less likely to receive "bad news." The second most important item was providing study guides for reading, with lower GPA students having a stronger preference for this practice. Other practices that lower GPA students preferred more strongly were encouraging study groups for tests, giving sample test questions, and teaching study techniques--all practices that could improve their grades. Students with higher GPAs preferred required attendance and professors who created interest in the readings they had assigned, both practices which fall in the category of helping students stay on task. Perhaps students with higher GPAs used these practices to "stay the course" while lower GPA students were less likely to recognize a need for an external "prod" at times to help them get their work done.

Table 2. Instructional practices which predicted cumulative GPA

Variable	Parameter Estimate	Prob > T	Standardized Estimate
Intercept	2.836	.0001	.000
Encourage study groups for tests (Q55)	0.090	.0729	.139
Return tests promptly (Q63)	-0.256	.0002	-.259
Give sample test questions (Q59)	0.125	.0241	.164
Require attendance (Q71)	-0.094	.0039	-.194
Provide study guides for reading selections (Q3)	0.144	.0042	.209
Create interest in reading assignments (Q11)	-0.177	.0252	-.156
Teach study techniques for textbook information (Q15)	0.071	.1003	.119
Encourage use of tutorial services if needed (Q75)	*0.061*	*.2858*	*.079*

What preferences differentiated students with varying degrees of motivation?

Four variables were selected by the step-wise regression to best predict motivation with three retaining their significance in the final analysis. Though the model was statistically significant ($F=3.878$, $df=4,195$, $p=.0047$), it only accounted for 7.4% of the variability in motivation, and the adjusted R^2 was only .055. The regression equation is displayed in Table 3.

The most important variable that differentiated highly motivated students from less motivated ones was the preference to break up lectures with other activities. Though one might expect that this activity would be more important to less motivated students, the opposite was found. Students who were less motivated, however, expressed a stronger preference for instructors who provided sample test questions and who would teach study techniques and ways to remember textbook information. Thus, less motivated students seemed to prefer practices which were very specific (tests, study techniques) while more motivated students wanted help in general with focusing on their learning throughout their time in the classroom.

Table 3. Regression equation to predict motivation

Variable	Parameter Estimate	Prob > T	Standardized Estimate
Intercept	23.06	.0001	.000
Break up lectures with other activities (Q47)	-1.406	.0045	-.215
Give sample test questions prior to the tests (Q59)	1.006	.0326	.159
Teach study techniques to remember textbook info (Q15)	0.815	.0434	.157
Have frequently graded homework (Q69)	*-.061*	*.1364*	*-.108*

Interpretation of findings in this area, however, must be considered quite tentative since both the reliability (as expressed by Cronbach's alpha) and the validity (as expressed by the multiple correlation) are low. Future efforts should focus on improving measurement in this area since motivation repeatedly has been found to be a significant factor in student learning and retention. These findings, while relevant, could probably be better illuminated by a different and more extensive set of items related to student motivation.

What preferences differentiated students with different degrees of academic preparedness?

The stepwise regression selected five variables to predict self-reported academic preparedness. After the final regression equation was run, three variables remained statistically significant. The model accounted for 15% of the variability in preparation scores (F=6.902, df=5, 192, p=.0001) which was reduced to an adjusted R^2 of .1303. The results of the regression are found in Table 4 below.

Table 4. Instructional practices which predicted academic preparation

Variable	Parameter Estimate	Prob > T	Standardized Estimate
Intercept	59.229	.0001	.000
Provide specific feedback on writing (Q25)	-6.786	.0001	-.357
Provide study guides for reading selections (Q3)	2.147	.0106	.184
Encourage use of tutorial services if needed (Q75)	1.846	.0468	.141
Explain important textbook information in class (Q1)	*-1.233*	*.3163*	*-.068*
Give sample test questions prior to test	*1.387*	*.1259*	*.111*

The variable which had the strongest relationship to academic preparedness was the instructional practice of providing specific feedback on writing. Again, those who thought they were more academically prepared had a stronger preference for this practice. Students who rated themselves as less academically prepared had stronger preferences for study guides and faculty who encouraged them to use tutorial services if needed.

What predicts retention?

Though nine instructional preference items, self-assessed motivation, and cumulative GPA initially showed strong relationships with the retention variable, when entered into the stepwise logistic regression procedure, only two preference items were selected: creating an interest in reading assignments and using small groups in class for discussions or working together. When motivation and cumulative GPA were also added as potential variables, they were both selected along with only one instructional practice item on creating interest in reading assignments. Table 4 displays the final results of the logistic regression. There were 70% concordant pairs using this analysis; the Gamma coefficient was .402.

Table 5. Logistic regression results for predicting retention

Variable	Wald χ^2	Prob>χ^2	Standard. Est.	Odds Ratio
Intercept	1.3611	.2433		
Cumulative GPA	7.4328	.0064	0.2915	2.236
Create interest in reading assignments (Q11)	5.0848	.0241	-0.2267	0.615
Motivation	3.2465	.0711	0.1858	1.063

Echoing prior research (Belcheir, 1997b), these results show that the most important variable in predicting retention was cumulative GPA. The second most important variable for discriminating between those who returned and those who didn't was a preference for creating an interest in reading assignments with students who did not return expressing a greater preference for creating an interest in their readings. Motivation was the third factor with those who described themselves as more motivated also having a higher probability to returning. However, results in this area may be confounded by the retention measure itself since, for example, a new freshman may have very different reasons for not returning compared to a junior.

How often are significant instructional practices seen in the classroom?

The results so far have indicated which instructional practices students most prefer in their classes and how these preferences differ by students with varying cumulative grade point averages, motivation levels, academic preparation, and retention the following fall term. How often, then, do these instructional preferences also show up in the classroom? Table 6 shows all the instructional preferences selected by any regression analysis or by popularity of all students (as indicated by the top 10 practices that students preferred to see in the classroom) and the frequency that students said they encountered these practices in the classroom.

Most of the instructional practices occurred fairly infrequently in the classroom—at least according to student perceptions. Of the sixteen practices included, only six were felt to occur almost always or often by at least 50% of the students responding. All were on the list of practices most preferred by students, while one also was related to cumulative GPA. On the other hand, six practices were experienced very infrequently (defined as occurring "almost

Table 6. Frequency of classroom occurrence for significant instructional preferences

Instructional Practice	Significance[2]	Occurrence[3]
Provide clear directions/format for the writing assignment (Q17)	Pop	53.0
Provide specific feedback on writing assignments (Q25)	Pop, Prep	42.5
Provide feedback on why test answers were right or wrong (Q65)	Pop	47.5
Return writing assignments within a reasonable timeframe (Q27)	Pop	63.5
Explain how the writing assignment will be evaluated (Q21)	Pop	53.5
Provide information about type of questions and content on tests (Q57)	Pop	46.5
Return tests promptly (Q63)	Pop, GPA	75.5
Allow time in lecture class for students' questions or comments (Q43)	Pop	64.3
Are available outside of class (Q73)	Pop	71.4
Use humor (Q51)	Pop	36.2
Encourage study groups for tests (Q55)	GPA	25.0
Give sample test questions prior to tests (Q59)	GPA, Mot	16.5
Require attendance (Q71)	GPA	39.9
Provide study guides for reading selections (Q3)	GPA, Prep	20.4
Create interest in reading assignments (Q11)	GPA, Ret	14.5
Teach study techniques and ways to remember text information (Q15)	GPA, Mot	5.0
Break up lectures with other activities (e.g., discussions, films) (Q47)	Mot	20.6
Encourage use of tutorial services if needed (Q75)	Prep	35.9

always" or "often" by less than 25% of students). The items with the lowest occurrence related to reading assignments with only 5% of students indicating they often received help in how to approach and remember their reading assignments. Thus, it appears that little is currently being done to create student interest in reading or to help students remember what they read.

Conclusions and Discussion

When asked what they preferred, students were most positive about wanting good structure and plenty of feedback on their writing assignments and tests. They preferred instructors who were prompt in returning assignments and tests, allowed time for questions in class, used humor, and were available outside of class.

When instructional preferences were further related to cumulative grade point average, motivation, academic preparation, and retention, however, a different set of preferences appeared. Students who considered themselves less motivated or academically prepared or who

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[2] Pop=popular practice, GPA=cumulative GPA, Mot=motivation, Prep=academic preparation, Ret=retention.
[3] Percent who indicated the practice occurred "almost always" or "often"

had lower GPAs than their peers expressed preferences for instructional practices that encouraged the formation of study groups for tests and the use of tutorial services if needed. Practices which rose to the surface in more than one analysis as helpful to "at-risk" students were: giving sample test questions, providing study guides for reading selections, and teaching study techniques and special ways to remember textbook information. In addition, students who did not graduate or return expressed a preference for creating a greater interest in their reading assignments. Students who were more successful had stronger preferences for providing specific feedback on writing assignments, returning tests promptly, requiring attendance, and breaking up lectures with other activities such as discussions and film clips.

Research suggests that students who have greater awareness and understanding of their learning processes are more successful students (e.g., Baker, 1989; McKeachie et al., 1986). Research also suggests that prompt and specific feedback helps students learn (e.g., McKeachie et al., 1986). Perhaps this helps explain why more successful students had these preferences: they were more aware of what they needed to learn. On the other hand, "at-risk" students only knew they were having difficulty with their reading assignments and tests and needed someone to guide them in approaching these important tasks.

Survey findings indicate, however, that many of the instructional practices that at-risk students prefer are seldom present in the classroom. In our quest to improve student success, maybe we should turn to faculty and ask them to consider altering instructional practices. Some practices would require more work on the part of faculty (e.g., study guides, sample tests, teaching study techniques). On the other hand, it may take little time and effort to create a compelling interest in the assigned reading or to urge students to use tutorial services.

One key to student success lies in the hands of faculty. This study points to some practices that have been validated by research and now shown to be preferred by students. Perhaps it's time to get these practices into more classrooms.

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Appendix A

Boise State University
Student Survey of Instructional Preferences and Practices

Directions: The purpose of this survey is to assess the kinds of instruction and classrooms that you prefer and have experienced so far at BSU. Please respond by thinking of classes and instructors that you have experienced ***in general.*** Think first of **how much you prefer** each instructional approach. Mark your response on the **left** side of the survey. Then think about **how often you have encountered** this instructional approach and mark your response on the **right** side of the survey. Use either pen or pencil to respond.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	← I prefer instructors who:	This occurs: →	Almost Always	Often	Half the time	Occasionally	Almost Never
					Reading Assignments:						
①	②	③	④	⑤	1.	Explain important textbook information in class	①	②	③	④	⑤
①	②	③	④	⑤	2.	Provide study guides for reading selections	①	②	③	④	⑤
①	②	③	④	⑤	3.	Identify key information in reading selections	①	②	③	④	⑤
①	②	③	④	⑤	4.	Introduce major ideas and key points before reading the assignment	①	②	③	④	⑤
①	②	③	④	⑤	5.	Explain purpose or importance of the assigned readings	①	②	③	④	⑤
①	②	③	④	⑤	6.	Create interest in the reading assignments	①	②	③	④	⑤
①	②	③	④	⑤	7.	Define and explain key terms in reading selections	①	②	③	④	⑤
①	②	③	④	⑤	8.	Teach study techniques and special ways to remember textbook information	①	②	③	④	⑤
					Writing assignments:						
①	②	③	④	⑤	9.	Provide clear directions/format for the assignment	①	②	③	④	⑤
①	②	③	④	⑤	10.	Provide sample essays before beginning the assignment	①	②	③	④	⑤
①	②	③	④	⑤	11.	Explain how the assignment will be evaluated	①	②	③	④	⑤
①	②	③	④	⑤	12.	Encourage several drafts before grading the assignment	①	②	③	④	⑤
①	②	③	④	⑤	13.	Provide specific feedback on work	①	②	③	④	⑤
①	②	③	④	⑤	14.	Return assignments within a reasonable timeframe	①	②	③	④	⑤
					Math/Quantitative assignments:						
①	②	③	④	⑤	15.	Discuss real world use of math-based concepts	①	②	③	④	⑤
①	②	③	④	⑤	16.	Work out difficult homework problems in class	①	②	③	④	⑤
①	②	③	④	⑤	17.	Give sample problems that have been worked out	①	②	③	④	⑤
①	②	③	④	⑤	18.	Encourage students to form study groups	①	②	③	④	⑤
①	②	③	④	⑤	19.	Allow assignments to be re-done.	①	②	③	④	⑤
					Lecture situations:						
①	②	③	④	⑤	20.	Provide overviews or outlines before beginning the lecture	①	②	③	④	⑤
①	②	③	④	⑤	21.	Use a variety of examples to explain concepts	①	②	③	④	⑤

Turn to Page 2

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	← I prefer instructors who:	This occurs: →	Almost Always	Often	Half the time	Occasionally	Almost Never
①	②	③	④	⑤	22.	Allow time in class for students' questions or comments	①	②	③	④	⑤
①	②	③	④	⑤	23.	Use a variety of visuals to supplement lectures	①	②	③	④	⑤
①	②	③	④	⑤	24.	Break up lectures with other activities (e.g., discussions, film clips)	①	②	③	④	⑤
①	②	③	④	⑤	25.	Provide summaries at end of the lecture	①	②	③	④	⑤
①	②	③	④	⑤	26.	Use humor	①	②	③	④	⑤
						Examinations/tests:					
①	②	③	④	⑤	27.	Have frequent quizzes so I know how I'm doing	①	②	③	④	⑤
①	②	③	④	⑤	28.	Encourage the formation of study groups to prepare for tests	①	②	③	④	⑤
①	②	③	④	⑤	29.	Provide timely information about type of questions and content to be covered on tests	①	②	③	④	⑤
①	②	③	④	⑤	30.	Give sample test questions prior to the tests	①	②	③	④	⑤
①	②	③	④	⑤	31.	Provide a review session before the exam	①	②	③	④	⑤
①	②	③	④	⑤	32.	Return tests promptly	①	②	③	④	⑤
①	②	③	④	⑤	33.	Provide feedback on why answers were right or wrong	①	②	③	④	⑤
						General:					
①	②	③	④	⑤	34.	Use small groups in class for discussions or working together	①	②	③	④	⑤
①	②	③	④	⑤	35.	Have frequently graded homework so I know how I'm doing	①	②	③	④	⑤
①	②	③	④	⑤	36.	Require attendance	①	②	③	④	⑤
①	②	③	④	⑤	37.	Are available outside of class	①	②	③	④	⑤
①	②	③	④	⑤	38.	Encourage the use of tutorial services if needed	①	②	③	④	⑤

39. On a 1 to 10 scale, how would you rate yourself on: (1 = weak, 5 = adequate, 10 = strong)

____ Preparation for college	____ Writing skills
____ Knowing what you want from an education	____ Math skills
____ Motivation to continue your education	____ Note-taking skills
____ Reading skills	____ Test-taking skills
____ Organizational skills	____ Time to devote to education

40. How do you prefer to learn?

① by seeing it / reading about it	③ by doing it / trying it myself
② by hearing it / listening to someone	④ I'm not sure

COMMENTS:

Office of Institutional Assessment, Boise State University, February, 1997

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Appendix B

Table 7. Perceived Preference and Occurrence of Instructional Practices by Undergraduates

Practice:	Percent agreeing	Percent responding that practice occurred: Almost always	Often	Half the time	Occasionally	Almost never
Reading Assignments:						
Explain important textbook information in class	94.6	14.0	32.5	34.5	16.5	2.5
Provide study guides for reading selections	66.0	6.0	14.4	17.4	37.3	24.9
Identify key information in readings	89.2	6.6	29.3	33.8	23.7	6.6
Introduce major ideas and key points before reading the assignment	70.1	4.0	20.9	25.4	27.9	21.9
Explain purpose or importance of assigned readings	77.5	5.5	18.4	33.8	23.9	18.4
Create interest in the reading assignments	77.3	4.0	10.5	28.0	35.5	22.0
Define and explain key terms in reading selections	79.4	6.0	28.6	31.2	22.1	12.1
Teach study techniques and special ways to remember textbook info	62.1	1.5	3.5	14.5	34.0	46.5
Writing Assignments:						
Provide clear directions/format for the assignment	98.0	13.5	39.5	34.5	11.0	1.5
Provide sample essays before beginning the assignment	66.3	2.0	10.0	19.5	34.5	34.0
Explain how the assignment will be evaluated	93.1	13.0	40.5	24.5	15.5	6.5
Encourage several drafts before grading the assignment	62.6	6.0	20.5	26.0	27.0	20.5
Provide specific feedback on work	96.0	11.5	31.0	35.0	17.0	5.5
Return assignments within a reasonable timeframe	96.0	26.5	37.0	24.0	10.5	2.0
Math/Quantitative Assignments:						
Discuss real world use of math-based concepts	86.6	10.6	21.1	26.7	26.1	15.6
Work out difficult homework problems in class	94.7	25.4	33.1	29.3	7.7	4.4
Give sample problems that have been worked out	89.3	13.3	27.8	30.0	16.7	12.2
Encourage students to form study groups	55.4	10.0	17.2	27.2	28.3	17.2

Practice:	Percent agreeing	Percent responding that practice occurred: Almost always	Often	Half the time	Occasionally	Almost never
Allow assignments to be re-done	61.0	2.2	6.1	8.4	27.9	55.3
Lecture situations:						
Provide overviews or outlines before beginning lecture	80.3	6.5	21.4	26.9	27.9	17.4
Use variety of examples to explain concepts	94.1	9.0	33.0	39.0	15.0	4.0
Allow time in class for students' questions or comments	95.1	30.2	34.2	26.6	8.0	1.0
Use a variety of visuals to supplement lectures	84.7	8.0	30.2	32.7	23.1	6.0
Break up lectures with other activities (e.g., discussions, film clips)	77.9	6.0	14.6	37.7	31.2	10.6
Provide summaries at the end of the lecture	70.0	2.0	10.6	19.6	37.2	30.7
Use humor	91.7	8.0	28.1	36.2	21.6	6.0
Examinations/tests:						
Have frequent quizzes so I know how I'm doing	27.9	2.5	13.1	35.2	35.2	14.1
Encourage the formation of study groups to prepare for tests	57.6	8.2	16.8	29.1	32.1	13.8
Provide timely information about type of questions and content to be covered	93.6	12.6	33.8	33.3	16.2	4.0
Give sample test questions prior to the tests	80.8	5.0	11.5	29.5	35.0	19.0
Provide a review session before the exam	87.2	13.0	25.5	29.5	18.5	13.5
Return tests promptly	92.6	29.5	46.0	14.5	7.5	2.5
Provide feedback on why answers were right or wrong	94.6	18.7	28.8	25.8	14.6	12.1
General practices:						
Use small groups in class for discussion or working together	50.2	5.1	16.7	25.3	39.9	13.1
Have frequently graded homework so I now how I'm doing	58.1	5.5	17.0	30.5	30.5	16.5
Require attendance	50.2	12.6	27.3	27.8	21.7	10.6
Are available outside of class	92.5	35.7	35.7	16.1	11.6	1.0
Encourage the use of tutorial services if needed	74.9	14.1	21.7	33.8	16.7	13.6